

## SEQUENCE LISTING

&lt;110&gt; SHAO, Wei et al.

<120> ISOLATED HUMAN RAS-LIKE PROTEINS,  
NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE  
PROTEINS, AND USES THEREOF

&lt;130&gt; CL001187

&lt;160&gt; 4

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 2674

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 1

```

ttcgctgcg ggccggcact gctcacctct cgtccagga catgacgggc acgccaggcg 60
ccgttgccac ccgggatggc gaggccccc agcgctcccc gccctgcagt ccgagctacg 120
acctcacggg caaggtgatg cttctgggag acacaggcgt cggcaaaaca tgtttcctga 180
tccaattcaa agacggggcc ttctgtccg gaaccttcat agccaccgtc ggcatagact 240
tcaggaacaa ggtggtgact gtggatggcg tgagagtga gctgcagatc tgggacaccg 300
ctgggcagga acggttccga agcgtcaccc atgcttatta cagagatgct caggccttgc 360
ttctgctgta tgacatcacc aacaaatctt ctttcgacaa catcaggggc tggctcactg 420
agattcatga gtatgccag agggacgtgg tgatcatgct gctaggcaac aaggcggata 480
tgagcagcga aagagtgatc cgttccgaag acggagagac ctggccagg gagtacgggtg 540
ttcccttccct ggagaccagc gccaaagactg gcatgaatgt ggagttagcc tttctggcca 600
tcgccaagga actgaaatac cgggcccggc atcaggcgga tgagcccagc ttccagatcc 660
gagactatgt agagtcccag aagaagcgtc ccagctgctg ctcttcatg tgaatcccag 720
ggggcagaga ggaggtctct gaggcacaca ggatgcagcc ttccctctcc caggcctggc 780
ttattccaag aggtgagcc aatggggaga aagatggagg actcactgca cagccgcttc 840
ctagcagga gctatactcc aactcctact tgagttcctg cggctctccc gcatccacag 900
ggagggtaaa acacttagct tttattttta tagtacataa tttaatacca aaaaaggcgc 960
ctggatcccc aaaaaaccga ggctgggagc tagtggccct tttgctttct aggacttggg 1020
gggcccggccc tccctcctaa gcataacaaa ggtggtgttg ctccagctca gcccagggg 1080
acacagatgc actttggggg tgagggcagg taatgactcc atcgaccctc cagttcagct 1140
ggacagaggc tcaggtgacc ccagccttca ctgtctcccg ctctccagga gcttatcttc 1200
gccccatctc ccaaataagt gggcccttgt gctgtgagga agaccaaagc ctccagggaag 1260
ataagagata tggagatggg agggggagga caaggggcag agagtgggt ctagctggct 1320
atctctggcc ttactaacac cccctggag gcatgccctt tttctccagc acacaagcac 1380
attggggcac ctggaatat tggttccagg ctctgttct ctggacttca gatcctgggg 1440
gagccccctc cccccctgaa tccctggctt agctaccttc ctgcctgtgc acctaaaaac 1500
ctcaggtcag aactaggaag agagttttgt tttattttt ttgaaatgga gtctcgttct 1560
gtcgcccagg ctgaggtgca gtagtgcaat ctccgctcac tacaacctcc actccctggg 1620
gctcaagcga tcctcccacc tcagccgccg aagtagctgg gactataggt gtgtaccatc 1680
acacctggct aatttttgtt ttttttgtag acacagggtt tcgccatgtt gccaggctg 1740
gtcttgaatt cctgagctca agcaacctgc cggcctcggc ctcccaagt actgggatta 1800
cacgcagaag gcaccatgcc caggctagat gtgtcttata ccaatccttt ggcaggcatg 1860
cagctccaca ggcgatttct tcaagcagct gaagtgttta gccctcctgg gtttaagagcc 1920
agataaggag aaatcccttt ctaggtttg gaagtgtttg tgaaaaaaa gagaaatccc 1980
tggctcctgg agctggtggg agacaagatt aagcaaacct cccctgacat gtatcccttt 2040
gacccaagc tctgcctcct ccctgaccac ccatgccctt tcctttaact tctcaaacag 2100

```

```

ataccagggc ctaaactgct ttacctcccc tcctactgag tcagggttagg tgggtgggagg 2160
tcacccattt ccgagttaaa ccaatgcaat atgagtaaaa caaagtcattg tgggtatgtc 2220
tggggtagag agaggggtag caagttcatg tgtcctcctt ggtcacatat ctcccaaagc 2280
tctgatccct gccatgggaa gtggacagga aacatgaggt catgacctgc aggcattctt 2340
actgcagctc tgccggcctg gagggggaga gggggaggaa gaagtatgcg ctgcacattt 2400
ctgaggctac tgcatttgct ttcaaggcag aaatcttgct ctgagcagtc agcgggtcca 2460
gtttgggccc gataaggaag ttctccgtgg cctccctcag gcagagcagg gaggaggctg 2520
acattgccag tctcttctgg ggcccaaggc aggttgcagg agatccaatc ccatagacag 2580
ctctgggcct cttgcatttg agtttttcag aattaaactg cagtattttg gaaagcaaaa 2640
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 2674

```

<210> 2  
 <211> 223  
 <212> PRT  
 <213> Human

<400> 2

Met	Thr	Gly	Thr	Pro	Gly	Ala	Val	Ala	Thr	Arg	Asp	Gly	Glu	Ala	Pro
1				5				10					15		
Glu	Arg	Ser	Pro	Pro	Cys	Ser	Pro	Ser	Tyr	Asp	Leu	Thr	Gly	Lys	Val
			20					25					30		
Met	Leu	Leu	Gly	Asp	Thr	Gly	Val	Gly	Lys	Thr	Cys	Phe	Leu	Ile	Gln
		35					40					45			
Phe	Lys	Asp	Gly	Ala	Phe	Leu	Ser	Gly	Thr	Phe	Ile	Ala	Thr	Val	Gly
	50					55					60				
Ile	Asp	Phe	Arg	Asn	Lys	Val	Val	Thr	Val	Asp	Gly	Val	Arg	Val	Lys
	65				70					75					80
Leu	Gln	Ile	Trp	Asp	Thr	Ala	Gly	Gln	Glu	Arg	Phe	Arg	Ser	Val	Thr
				85				90						95	
His	Ala	Tyr	Tyr	Arg	Asp	Ala	Gln	Ala	Leu	Leu	Leu	Leu	Tyr	Asp	Ile
			100					105						110	
Thr	Asn	Lys	Ser	Ser	Phe	Asp	Asn	Ile	Arg	Ala	Trp	Leu	Thr	Glu	Ile
		115					120						125		
His	Glu	Tyr	Ala	Gln	Arg	Asp	Val	Val	Ile	Met	Leu	Leu	Gly	Asn	Lys
	130					135					140				
Ala	Asp	Met	Ser	Ser	Glu	Arg	Val	Ile	Arg	Ser	Glu	Asp	Gly	Glu	Thr
	145				150					155					160
Leu	Ala	Arg	Glu	Tyr	Gly	Val	Pro	Phe	Leu	Glu	Thr	Ser	Ala	Lys	Thr
				165				170						175	
Gly	Met	Asn	Val	Glu	Leu	Ala	Phe	Leu	Ala	Ile	Ala	Lys	Glu	Leu	Lys
		180					185						190		
Tyr	Arg	Ala	Gly	His	Gln	Ala	Asp	Glu	Pro	Ser	Phe	Gln	Ile	Arg	Asp
	195						200					205			
Tyr	Val	Glu	Ser	Gln	Lys	Lys	Arg	Ser	Ser	Cys	Cys	Ser	Phe	Met	
	210					215					220				

<210> 3  
 <211> 13182  
 <212> DNA  
 <213> Human

<220>  
 <221> misc\_feature  
 <222> (1)...(13182)  
 <223> n = A,T,C or G

&lt;400&gt; 3

aggggagaga aaagaccgca taccaggcca ggtgcggtgg ctcacgcttg taatcccagc 60  
 aatttggaag gccaaaggcag gcgtatcgcc tgaggtcagc agttccaaac cagcctgtcc 120  
 aacatggtga agttctctac taagaataca aaaattaccc aggcgtgggtg gcgtgcacct 180  
 gtagtcccag ctgctccaga ggctgaggca ggagaattgc ttgaacctgg gaggcagagg 240  
 ctgcaatgcg ccaagatccc gccactgcac tccagcctgg gcgacagagt gagactccgt 300  
 ctccgggagc ccacggcatt gagcaaacct cggcattatt tgcagcaaga gcctctggca 360  
 tccaaatagc aaccaacacc acgcctctgt agtgtgctgc gcagcctcca cactccagtc 420  
 tgaggctccc tgtttgagtc ccgcctatg cccagctgag gttatagcac gctcacctcc 480  
 agaagaggta acccaagctc tttactctac tggagatcac ctctgtcccc actctgggcg 540  
 cttctcccag ctgacagaaa atacctccag ctgatgtcag aaaatacagg gctggaggct 600  
 ggcgtaaaaa gtcagtcccc acaggcctat ggtggcccat aagccacgtc taccctgtct 660  
 cctcacctcc acacctaaagt taagaattgc aggcggggcg cagtggctca cgcctgtaat 720  
 cccagcactt tgggaggctg aggtggggcg accgcctgag gtcaggaatt tgagaccagc 780  
 ttggccaaca tggcaaaacc ccgtctctac taaaaataca aaaagaaaaa atagccgggc 840  
 ctgatgtcgc gcacctgtaa tcccagctac tccgggagac tgaggcggga gtatagcttg 900  
 aaccgggaa gcaaagggtg cagtgaggcg agatcgacc actgcactcc aggtctggcg 960  
 acagagttag actctgtctg aaaaaaaaaa aaagtgcagg taccctctc cagctctccc 1020  
 ctccctacac atccctcaaa ccgtcccgt gtaatgcacc cgcctgttc cttggttaact 1080  
 tgaagctgct tatagaatgt ggagatgggg gtaattgaaa ggtcgcccc a ggccacagag 1140  
 cccctgagct ctgctaccgg caaccccagc tgcactcccc actctctgtc accaggagct 1200  
 gccgggtgcc tgggatatcc tggcagctct gctcaaaatg atctacgact tcatgaattt 1260  
 atttggtcc tctcggggc cagggtagt gtcatgggtt aataaggccg gccccgcctt 1320  
 caggagcggg ccaactggag atgtgtgctg cgcagccctc ttgcgaaagc tctcccctgg 1380  
 tgggacattc tgggcacaac caacaggccg ggggaaatga gaggtgatcc atactaaagg 1440  
 gtcaaatccc ccgcaccagg cagaggtccc aaaacaccgc agcgtacatg tgctgaagg 1500  
 cgagtacggg ttggtaaaca aaactatatt catgatgact cggggcgggt gacttaacag 1560  
 atgaggaagt gtctcggggc catcgcggga ggcgcagccc aggggtcccc agctccccgc 1620  
 ctgcgccact ggggacagcc cacggcccgg ggctcggggc ccgcctgctg tcgcggtgcg 1680  
 cagcgactac gggaactctt ccgcagcaga cgggtcccc gcggcccgt cccccagggg 1740  
 caagcaagcg accacagggg accggtcccc gggctggatg tggctcatgt ccgaagcgca 1800  
 cggagccgag ccggtgttgc tcaggagggc tgcccgcctt ttcacgcaga cctgcggtct 1860  
 ctgctgccc tcagggaaca gcaaggtccg agccggtgtc gtcgaggggg cgacgggacg 1920  
 gaggaggagg cctgaggggt cccggtcgag ggaggggagg agtgggaggg gcgggggtgg 1980  
 gggccgttcc cgcctctcc ttcgctgctg ggccggcact gctcacctct cgtccaggga 2040  
 catgacgggc acgccaggcg ccgttgccac ccgggatggc gagggccccg agcgtcccc 2100  
 gccctgcagt ccgagctacg acctcacggg caaggtgggt gggcctctc cgtgagacct 2160  
 ccgcctcct cggcgctagc cccttcctgg ctgctctgg gttggactca gcccttcccc 2220  
 caggcagctg cgtctcccag agggaggagg gagagagggt caggacacag cctctggggc 2280  
 cgtcccaagc tctaggtgtc tctgctggct tgggtggggc gggtcgcgga agatcgcaaa 2340  
 aactgagtga tcccccgcc ggccccaaact cagttctctt ctgccacact ctggcaaata 2400  
 tgagcccccg ggagcccatg cttcttggtg agggttaagc gcgcaactct cggggtcag 2460  
 gctgggaagg gctgggagat ggggaccgaa cggagactcg gagaggacgt cccctgctgg 2520  
 cagaggaact ggcgttaatg ccattttccg agctaagctc ttagttgaga tctgacatcc 2580  
 aggtttaagg cctgatgtcc cccagctgct cccctccat tccaccgct ggaggcactg 2640  
 cctcccacct tctccctgc agtcggaagc cgctcctccc agaaggatgt tgccagccgg 2700  
 cctgcaggtc acttggaat ttttcgaacc tgagaaagat ttcagtgggt ggtctttcgc 2760  
 atcccgact tgagagagct ccagggtgc tctctggggc ttgctccctc tacaggggtg 2820  
 tctgtatgg aaacaggtag ggacagcagt ggactggtct gtcgccttcc atctgtgtcc 2880  
 ttggagttag cgggtaccag aaactgaaag aactgctgag ggagcctaga gcttccactc 2940  
 ttcctctgca ggggtgggga tggagttagg gctgtcctgg attccgctgc atggccttga 3000  
 aggagacctg cctctctctg ggccctcggtt tctccccga caccagggct cacccttget 3060  
 gggagcctca gcctccacc cagtgtttcg ggggaagcca ccctgcaagt catccgcca 3120  
 gagccgttga gataggcgtc ctgtgtgggc ttgtggcagg aaatgggccc ctgcaccctc 3180  
 ggagaggagg agctgctgtt ggccaggccc caggctgagg gggactgcct gaccttggtg 3240  
 ccctgcaaac cagctgggtt gtttgccctag gaggtggcca ggctaggcag ctgtttgtgt 3300  
 ttggtggaat caccgagctg ggtgggtagc tggcatcggt tgctcaaggc agctgtgatc 3360

tgtaaagtac acaaagactg gccctccctc cctccttctt gctccagggc tgggacccag 3420  
 gagccagggg ggagtgcagg ctccagaaaag ctcttatccc ccaccccttc atctgttccc 3480  
 tggccaagcg gcattggccg gagagtgttg cccagcctc cccgggctg cccagggga 3540  
 gtgagtccag gaccctctga gaaagcctgg caggagctcc ttggaccaga ctaggggtga 3600  
 tgtggcccac aggcagacag tccccacctt gggccactct tccctgggtc ttaggtgatt 3660  
 caccacgatg atgggcccta gccattaaca gactctagaa atacctcaa gacattatcc 3720  
 ctccctcttc taccacctat ggaaacctag ccacagaaaag gttaaggaat cttcctaaag 3780  
 tcacacagta ggccatttac aaatcaagac ccaccccttc tacccttctt gctcagccac 3840  
 ccctgcctct ccaccagagt taactaatgc cagtacccca tgcccacaac aggaatgcct 3900  
 ttgggctcca ctgtcaattt cagagcctca aaaataattc aaacctagtc cctgcttaac 3960  
 ccattaagcc acctaaccag cagctgggaa attccagcat tggatctaga cccctgttat 4020  
 ccaagattgg agaacagtgg gacaaagtgc tcctctccac cattcctgcg tgtccctggg 4080  
 gaagatgagc agagcagagc cagacagtaa aggagagggc cacgccccct ccacaggtta 4140  
 cctccttggt actcctgccc gcactacca cagcaacccc gggatgccga tctgcagcca 4200  
 catgtcccat gtgggaggtt tctgctgaaa gaacttccaa ctacacatct cccacttca 4260  
 gtataaattt caaccttccc taattcatgc aacctttttt tttttttttt ttttttgaga 4320  
 cagagtgtcg ctctgtcacc gaggtggag ttcagtgatg caatctcggc tcaactgaac 4380  
 ctctacctcc tgggttcaag ctattctcct gtctccgctt cccaagtaac tgggactaca 4440  
 ggcgtgtgcc accactcctg gctagttttt tgtattttta gtagagatgg ggtttcacct 4500  
 tgttggtcag gctggtctca aactcccaac tcaggtgatc cgtccacttg ggcacccaaa 4560  
 atgnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4620  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4680  
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4740  
 acatggtaga aaccccgctc ctactaaaaa taaaaaatta gccaggcgag gtggtgcatg 4800  
 cctataatcc cagctactca ggtaggctga ggcaggagaa tcatttaaac ctgggaggtg 4860  
 gaggttggtg tgagccaaga tctcgccact gcactccagc ctgggcaaca agagcaaaa 4920  
 tccgtctcaa aaaaaaaaag aaagaaagaa agaaagaaac ttccaaataa atgttgtgac 4980  
 acaaaaaaaaa aaacccaaac aatattcatt atagagtatg caaatgacca tgccccaccc 5040  
 ccagcagatt ctgatagact cccttggttg ggaatccttg tccaatatat tgacacttcc 5100  
 ctttctgtc agtatagccc agcccatgcg tgtactcacg agcggacgat ggatgacaca 5160  
 agtacacaga gggacggaat cctgcatgg tgtggctatg ggcaaagtg gccactgtct 5220  
 agattgtgca aatgtggtgg ttctctgggg ccacagagca cacttgggga cctgttcatg 5280  
 gtgaggtctc aactccggcc tctaggaact tgaatgagga caggagggtc agagggagag 5340  
 cctaggaggc tgagccaagg agcgtggaga ggagagacag ggtgaagggt gcggctggct 5400  
 ttctggaagc aggtggcctt tgggtcgggtc agcattcgtg ccagccccct cttctctgat 5460  
 cctctccatg tgtctctctc ctggaatccc agaagctgcc cctgactccc cattaactgc 5520  
 ctctgccccct accccctagg tgatgcttct gggagacaca ggcgtcggca aaacatgttt 5580  
 cctgatccaa ttcaaagacg gggccttctt gtccggaacc ttcatagcca ccgtcggcat 5640  
 agacttcagg gtgaggtggc tgcaggcact tgcttcacgc agagagccag ggctgtggct 5700  
 caggcatggg ggggttgccc ccacctgtct caccctggct cccagggact cccgaggctc 5760  
 atgcttgag ggacacaaac ccgctcccc aagaccacag aggtggccgg gtcaaaggag 5820  
 actgggcaag gttggtcctt tgcccaacta taggatgcaa aaaaatgaga ctgagtcttc 5880  
 gattccagct ccattcctgg gggacttctc ccaagcagag cagccgcagg cacggcataa 5940  
 gctgaatata ttggcccaca gagcccctgc tcattgtctt cctacctggg cccctttgga 6000  
 aaggcctcaa aggtcaatca gtctttctgg agttcccaga aagcacagcc ctgcactggg 6060  
 ttttaagagct gggcttgggc caggcatggt ggctcttgcc tgtattccca gcactttggg 6120  
 aggccgaagc ggtcagatca caaggtcagg agtttgagac cagcctggcc aacatggtga 6180  
 aaccccgctc ctactaaaaa tacaaaaatt agccaggtgt agtggcacgc tcctgcagtc 6240  
 ccagctactc gggaggctga ggcaggagaa tcgctcaaat ccgggtgggtg gaggttgagc 6300  
 tgagctgaga tcgcccact gcactccagc ctgggcaaca aagtgagact gcgtctcaga 6360  
 aaaaaaaaaa aaaaaagagc tgggctggcc atgttgggag acagcagctc accagggacc 6420  
 ctccctctca ccttgacgac tccatcttac aaatctgcat cagggatgct agacgctgca 6480  
 cacctgaagt gttcaataga gaaaaggtct caccctggca ggtggggctc tacagcttca 6540  
 agcaggcaga aagcgaacac ttccttact agagaattag tgggcagcta aagaaaagg 6600  
 gctgctgcag atgtagcctc aggtccccag gatgcaggca aacaccccat ctccaggggc 6660  
 tcggtcacag tccaaggctc aggtccagg agagggagac cgaagtggg aaagggcagg 6720  
 gcctccagca gcaaccagcc ctccagccct gggctgctg atccctggag agagccagga 6780

tgtttctcag gctcctcttg ccctgctggt gtgagaaggg agttacagtc ctcagaaggg 6840  
 acgactccac agtggaggtg tctgggtatg ggggttcctgc tgccctgatg gtatgatctg 6900  
 gctggagacg gttctggggc tactgacacc cactctaggg ctggagaggg aacaagagag 6960  
 gacgtctgca gagctgagga gccacatgac tctgcccctc ccctcctctg cttttttctc 7020  
 tttcagaaca aggtggtgac tgtggatggc gtgagagtga agctgcaggt gagaccagag 7080  
 gctggagttg gggagggagg atggaggacc tgcccttctt tctcaccctg aaccacagga 7140  
 ggccctgcagc cctgcccctc gcctggggca atttctctgt gggcccacgg gaggaaatgg 7200  
 cttttgttta tttgacatct gcagaaaaag cagttcccag gcaccctctc atctatgaac 7260  
 agcagctcca aatgccttca gacaagctta gcctccatcc atctcctccc cagttgccag 7320  
 ggctttatct gctcttagga gattggacat ccccaacccc tgagctaggg gagaggagaa 7380  
 gattcttttt ttttcttttc ttttcttttt ttttttgaga tggagtctcg ctctgtcgcc 7440  
 caggctggag tgcagtggca caatctcggc tactgcaac ctctgcctcc caggtttaag 7500  
 agattctcct gcctcagcct cctgagtagc tgagactaca ggtgcatgcc accacacctg 7560  
 gctaattttt tgtattttta gtagagacgg ggtttcactg tgtagccag gatggtctgg 7620  
 atctcctgac ctctgtatcc gcctgcctcg gcctcccaaa gtgctgggat tacaggtgta 7680  
 agccaccgag ctctggctgag gagatgattt tgaacgagct tgagaaatca gtaactgcta 7740  
 ctgtccaggt cattggatgc tcaggggctc atgagaacct aaagaagaaa acagccccac 7800  
 cttcccacag atatctcata caacaaagca ggcctgctcc acccagcaca ttccttgcac 7860  
 ctgcctcctt ctgaccattt ctccatccca tcccttccca gatctgggac accgctgggc 7920  
 aggaacgggt ccgaagcgct acccatgctt attacagaga tgctcagggg gagtccctcg 7980  
 caccctccaa cccctacccc agccccttg tagcatccgt gctgctgcct aagtcccctc 8040  
 tgtgatcctc tcccctccag ccttgcttct gctgtatgac atcaccaaca aatcttcttt 8100  
 cgacaacatc agggtaggtc ctcccttccc ctgactccca ccataagca gccaaaggca 8160  
 ggtctatgca ggctgggggt gcttctctgcc ctgtggaaag cgggtggagc gtggagtctt 8220  
 cctgccttct gaaaaacacc tacttgtgac tcagaagtca tatctgctgc tttgtatttg 8280  
 gtggccatgt gggcatgaag gccaaagcag ctgttgtgac cctgtgccac ctgcatagcc 8340  
 ctactgtga ttcacagatg tgttctgtga caaagtgttc agaacagccc ccaactccac 8400  
 ctggataatt atccacagag accaagggaa aaacacaacc agaaaagtcc acacatacat 8460  
 ccagggcaag ttgcaagaaa gtgactcagt cagacagagt gagtggttgt atcctcacia 8520  
 ccaaactatt atagagacaa aaatttgata aattcaagca ccaattttgt tcacgacatt 8580  
 gtataggttt catgaatccc ctgacctcaa ggacagtttg ctgataagca aactaggaga 8640  
 ataaaacgtt tatatagaaa gaggaaaatc catggcactc atactcctac ctccaacccc 8700  
 atgctcatgg cagacatcac taatcaatca cagtactttt gatcactgaa acccttatgt 8760  
 ggtcttagaa tctttaacag gacactccaa gaaatcactg ctgacagcca actgatttgt 8820  
 gagataaggt ctccatgcat ctggatcttc catagaactg atagttgcac agcataaaat 8880  
 ggtgaggggt gggccattgt ggggttagcc accaagggaag gccatccagg cctggatggg 8940  
 ccagaacaaa ggtacagatg agagaacgca cagggtatcg tgttcaaggt agtgagtaac 9000  
 tgaggatagt caaacggagc agaagaagaa aggggagcca ggaggaagag aatgccagtc 9060  
 tcgcacgccc tctcccacag gcctggctca ctgagattca tgagtatgcc cagagggagc 9120  
 tgggtgatcat gctgctaggg aacaagggtg gtggctccgg ggcaggggtc gccagccctt 9180  
 gcacttcttc agccctagcc ggcccataaa ccaccaaga acagttatct aggcctcctt 9240  
 cctgaaaagg actctgcagc ctccagctca ggggtcagac atatctggag gcttctgccc 9300  
 atcccctctg ccccttccag ggaaagtcca agttgttgcc tgagaaatca aggggtgcc 9360  
 agttctcagc ccccattaga gcagagtga cagggtccca ggtcaggggc taagagtga 9420  
 aagggttagc cccaactgct gtcctattcc aagacccttt accaaagggt agatcccaga 9480  
 gctgggagct acactgggca gaaaccctgg cccagggcca atcacacctg cctgcagtcc 9540  
 cttggggcac cagcagaggg caggcaacgc ctgcttctgg ggcaaaatat gggcccgctg 9600  
 gggcgaggc ctcttcccc agagtgacct atttgggctt gacaggcgga tatgagcagc 9660  
 gaaagagtga tccgttccga agacggagag accttggcca gggtaagtga ttgtctgtgg 9720  
 gacaggggtg aggggtgggg caaccggacg ctggccctga ggacactctc tcccgggcag 9780  
 gagtacgggt tctccttctt ggagaccagc gccaaagactg gcatgaatgt ggagttagcc 9840  
 tttctggcca tcgccaagt agagctgggc aggggaaggga agtggtcggg gcagggcggc 9900  
 aactccagg aatccagtag ggcccgccc ctggcccagc ccctggacac acctgcattc 9960  
 tgcaggctga ggtccatttg ctctgggagc actgggccac tgggagaggg gagggggcgg 10020  
 ctgagctcct caccacagcc cagcccagcc cagcccagcc cattgtctct tcttcaaggg 10080  
 aactgaaata ccggggccgg catcaggcgg atgagcccag cttccagatc cgagactatg 10140  
 tagagtccca gaagaagcgc tccagctgct gctccttcat gtgaatccca gggggcagag 10200

aggaggctct ggaggcacac aggatgcagc cttccccctc ccaggcctgg cttattccaa 10260  
 gaggtctgagc caatggggag aaagatggag gactcactgc acagccgctt cctagcaggg 10320  
 agctatactc caactcctac ttgagttcct gcggtctccc cgcattccaca gggagggtaa 10380  
 aacacttagc ttttatttta atagtagata atttaatacc aaaaaaggcg cctggatccc 10440  
 caaaaaaccg aggctgggag ctagtggccc ttttgcttcc taggacttgg ggggccggcc 10500  
 ctccctccta agcataacaa aggtggtggt gctccagctc agccccaggg gacacagatg 10560  
 cactttgggg gtgaggcgag gtaatgactc catcgacccc tcagttcagc tggacagagg 10620  
 ctcaggtgac cccagccttc actgtctccc gctctccagg agcttatctt cgcctcatct 10680  
 cccaaataag tgggcccttg tgctgtgagg aagaccaag cctcagggaa gataagagat 10740  
 atggagatgg gagggggagg acaaggggca gagagtaggg tctagctggc tatctctggc 10800  
 cttactaaca cccccctgga ggcattgccc ttttctccag cacacaagca cattggggca 10860  
 cctggaaata ttggttccag gctcctgttc tctggacttc agatcctggg ggagcccctc 10920  
 cccccctga atcctggct tagctacctt cctgcctgtg cacctaaaaa cctcaggtca 10980  
 gaactaggaa aagagttttg tttttatttt tttgaaatgg agtctcgttc tgtcgccag 11040  
 gctgaggtgc agtagtgcaa tctccgctca ctacaacctc cactccctgg ggctcaagcg 11100  
 atcctcccac ctgagccgcc gaagtagctg ggactatagg tgtgtaccat cacacctggc 11160  
 taatttttgt attttttgta gacacagggg ttcgcatgtg tgccagggt ggtcttgaat 11220  
 tctgagctc aagcaacctg ccggcctcgg cctcccaaag tactgggatt acacgcagaa 11280  
 ggcaccatgc ccaggctaga tgtgtcttat cccaatcctt tggcaggcat gcagctccac 11340  
 aggcgatctc ttcaagcagc tgaagtgttt agccctcctg ggttaaagagc cagataaggaa 11400  
 gaaatccctt tcttaggttt ggaatgtgtt gtgaaaaaaa agagaaatcc ctggctcctg 11460  
 gagctgggtg gagacaagat taagcaaacc tcccctgaca tgtatccctt tgaccccaag 11520  
 ctctgcctcc tccctgacca cccatgccct ttcctttaac ttctcaaaca gataccaggg 11580  
 cctaaactgc tttacctccc ctctactga gtcaggttag gtgggtgggag gtcacccatt 11640  
 tccgagttaa accaatgcaa tatgagtaaa acaaagtcac gtgggtatgt ctggggtaga 11700  
 gagaggggta gcaagttcat gtgtcctcct tggtcacata tctcccaaag ctctgatccc 11760  
 tgccatggga agtgagcagg aaacatgagg tcatgacctg caggcatctt tactgcagct 11820  
 tgcgggcct ggagggggag agggggaggga agaagtatgc gctgcacatt tctgaggcta 11880  
 ctgcatttgc tttcaaggca gaaatcttgc tctgagcagt cagcggctcc agtttgggcc 11940  
 cgataaggaa gttctccgtg gcctccctca ggcagagcag ggaggaggct gacattgcca 12000  
 gtctcttctg gggcccaagg caggttgacg gagatccaat cccatagaca gctctgggcc 12060  
 tcttgcatctt gagtttttca gaattaaact gcagtatctt ggaaagcaca tctgtccac 12120  
 tgtttctttg aagtgagtgg gggggggggg tcttggtgaa ggaattgtca ttcactgcca 12180  
 aaatcattcc atcctccttc ctgagtgctt gtctcagat ggtcagctcc ccgctcaaca 12240  
 gactgtctcc cgcctctgtg accagcctct ctttggaag agggagctag aaggctttac 12300  
 agtctaatc attttctgt tggaaaaaaa aaaaaaaac caaggctcct ttccctgtgg 12360  
 cgtgtacca gaggttgatt acctgagctt gtctgcctc tccccacccc acctccctag 12420  
 ccaaacgctg ctgccaaagc ccacgctatt gccctagatg gcctgtcttc agcgggctgc 12480  
 ccctcgaggt cccaggctct ccgaggagcc ctcaccttcc cagcagggat cagaacctgc 12540  
 actcctctat gcgagtcctg ggacagcaca aagtggatta gggttagggt tcccacaaac 12600  
 ggaaaaatgt tattcaaaca actctgtagg gtccgaggag gccctccgtc ttaattctcg 12660  
 agactgaccg gccctcgtg ccccgagcgg gagcagttgc cccggcaaca gccgtccct 12720  
 ctcaactgga gctgcaccca ggctttggct aaaggctgtt aaaacgttgg ccagggtcgg 12780  
 aggtcacgt ctgtaatccc agggcgagtc acctgaggtc aggagtttga aaccatcctg 12840  
 gccaacatgg cgaaatttgc tctctactaa aaatacaaaa attagcgggg cgtgggtgtg 12900  
 cgcgcctgta accccagctg ctcgggagcc tgaggcaggg gaatcgcttg aaccgggag 12960  
 gcggagggtt cagtgatccg agatcgcgcc acggcagtc agcctggggc acagagcgag 13020  
 actccgtctc aaaaaaaaaa aaaaaagtta gggtccttta cccgagggcc ggctttcctc 13080  
 actccccgcc acaggtaggg gaaaccaggc cggagccggc gggccacccc gccagaacc 13140  
 gggaattcgg cgagccccgc ccctgccacc ccagcgccgg cc 13182

&lt;210&gt; 4

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 4



Met	Thr	Gly	Thr	Pro	Gly	Ala	Ala	Thr	Ala	Gly	Asp	Gly	Glu	Ala	Pro
1				5				10					15		
Glu	Arg	Ser	Pro	Pro	Phe	Ser	Pro	Asn	Tyr	Asp	Leu	Thr	Gly	Lys	Val
			20					25					30		
Met	Leu	Leu	Gly	Asp	Ser	Gly	Val	Gly	Lys	Thr	Cys	Phe	Leu	Ile	Gln
		35					40					45			
Phe	Lys	Asp	Gly	Ala	Phe	Leu	Ser	Gly	Thr	Phe	Ile	Ala	Thr	Val	Gly
	50					55					60				
Ile	Asp	Phe	Arg	Asn	Lys	Val	Val	Thr	Val	Asp	Gly	Ala	Arg	Val	Lys
65					70					75					80
Leu	Gln	Ile	Trp	Asp	Thr	Ala	Gly	Gln	Glu	Arg	Phe	Arg	Ser	Val	Thr
				85					90					95	
His	Ala	Tyr	Tyr	Arg	Asp	Ala	Gln	Ala	Leu	Leu	Leu	Leu	Tyr	Asp	Ile
			100					105						110	
Thr	Asn	Gln	Ser	Ser	Phe	Asp	Asn	Ile	Arg	Ala	Trp	Leu	Thr	Glu	Ile
		115					120						125		
His	Glu	Tyr	Ala	Gln	Arg	Asp	Val	Val	Ile	Met	Leu	Leu	Gly	Asn	Lys
	130					135					140				
Ala	Asp	Val	Ser	Ser	Glu	Arg	Val	Ile	Arg	Ser	Glu	Asp	Gly	Glu	Thr
145					150					155					160
Leu	Ala	Arg	Glu	Tyr	Gly	Val	Pro	Phe	Met	Glu	Thr	Ser	Ala	Lys	Thr
				165					170					175	
Gly	Met	Asn	Val	Glu	Leu	Ala	Phe	Leu	Ala	Ile	Ala	Lys	Glu	Leu	Lys
		180						185					190		
Tyr	Arg	Ala	Gly	Arg	Gln	Pro	Asp	Glu	Pro	Ser	Phe	Gln	Ile	Arg	Asp
		195					200					205			
Tyr	Val	Glu	Ser	Gln	Lys	Lys	Arg	Ser	Ser	Cys	Cys	Ser	Phe	Val	
	210					215					220				